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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,358	03/25/2005	Derk Reefman	NL 020908	6173

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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BRIARCLIFF MANOR, NY 10510

EXAMINER

LAUTURE, JOSEPH J

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/529,358

Applicant(s)

REEFMAN ET AL.

Examiner

Joseph Lauture

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thurston (US 5,585,801) in view of Naus et al (US 5,243,345).

Regarding claim 1, Thurston teaches in figure (4) a sigma delta modulator comprising: at least two parallel filters (4) and (6) on paths (5a) and (5b), each receiving an input signal V_{in} ; and a quantizer (1) for quantizing an output from the at least two parallel filters.

Thurston does not specifically teach an amplifier that controls a weight associated the output of each of the filters. However, the use of gain devices such as amplifiers in delta-sigma modulators is known, as evidenced by Naus et al. Naus et al teach in figure (1) a sigma delta modulator having weighting amplifiers (16.1), (16.2), and (16.3), each controlling a weight associated with an output of each two-filter section. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thurston and of Naus et al to improve system performance and reliability because that would make it possible to save on hardware costs (See column 3, lines 41-42).

Regarding claim 4, Thurston teaches in figure (4) a sigma delta modulation method comprising: inputting a signal to at least two parallel filters (4) and (6) on paths (5a) and (5b), each receiving an input signal V_{in} ; and using a quantizer (1) for quantizing an output from the at least two parallel filters.

Thurston does not specifically teach using an amplifier that controls a weight associated the output of each of the filters. However, the use of gain devices such as amplifiers in delta-sigma modulators is known, as evidenced by Naus et al. Naus et al teach in figure (1) a sigma delta modulator having weighting amplifiers (16.1), (16.2), and (16.3), each controlling a weight associated with an output of each integrating section. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Thurston and of Naus et al to improve system performance and reliability because that would make it possible to save on hardware costs (See column 3, lines 41-42).

Regarding claims 2, 3 and 5-7, Thurston teaches in figure (4) a delta-sigma modulator having an input V_{in} and an output V_{out} , wherein the output of a quantizer (1) is fed back as an input to two parallel filters, wherein one of the filters (on path 5b) is a high order filter and the other filter (on path 5a) is a low order filter.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Lauture, whose telephone number is (571) 272-1805. The examiner can normally be reached Monday to Friday between 9:30 am and 6:00 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached at (571) 272-7492. The fax number for the organization to which this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).


REXFORD BARNIE
SUPERVISORY PATENT EXAMINER

Joseph Lauture
Art Unit: 2819
Date: 08/10/2006